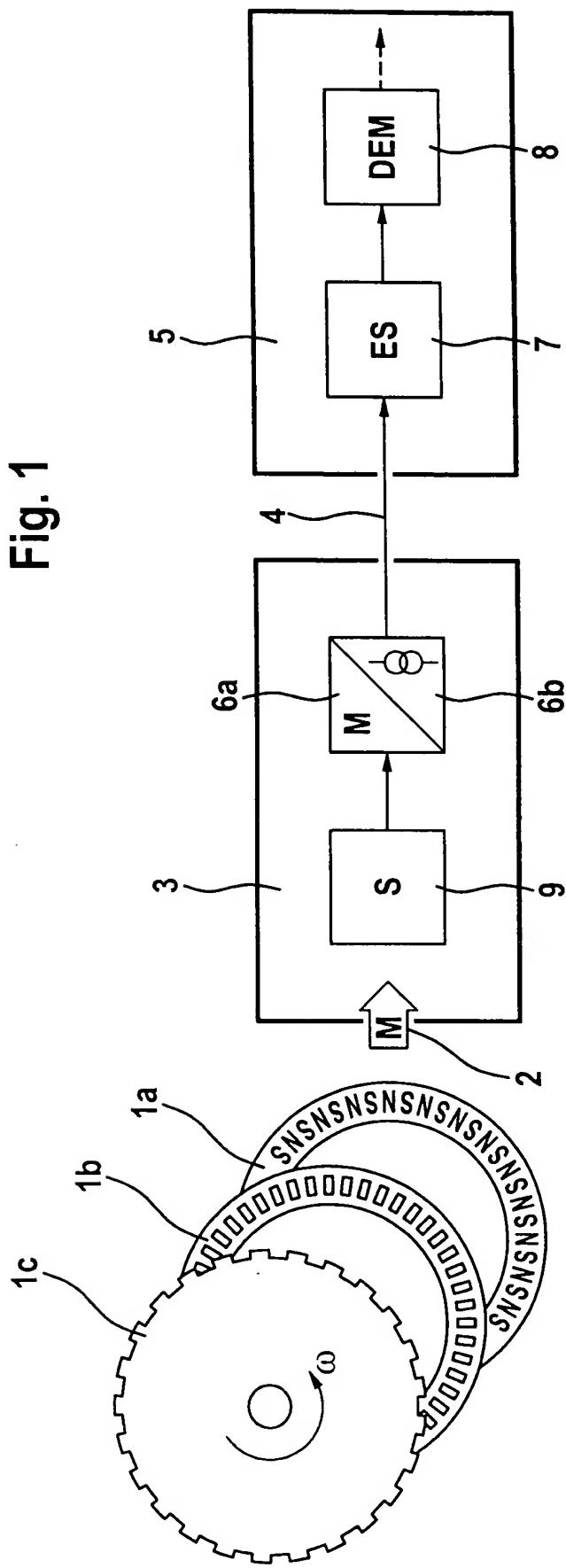


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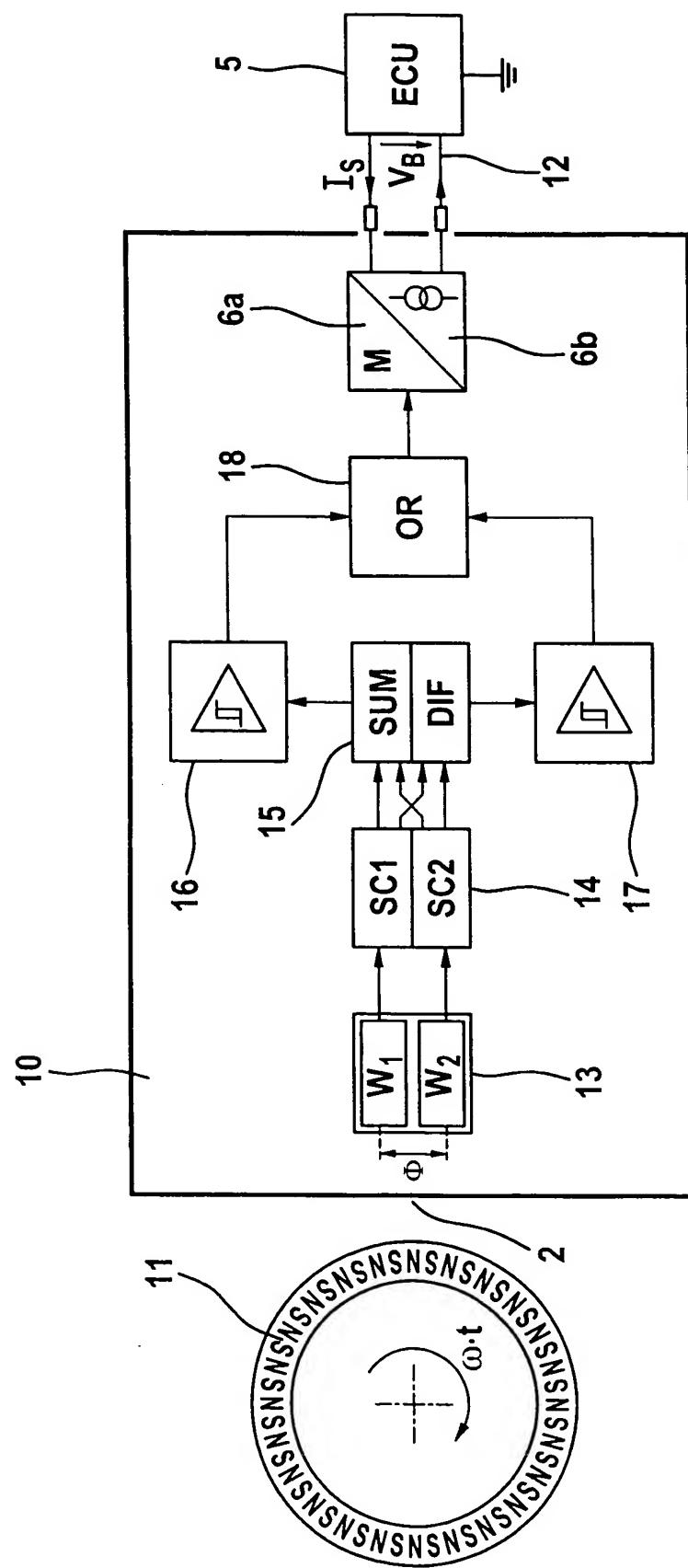


Fig. 2

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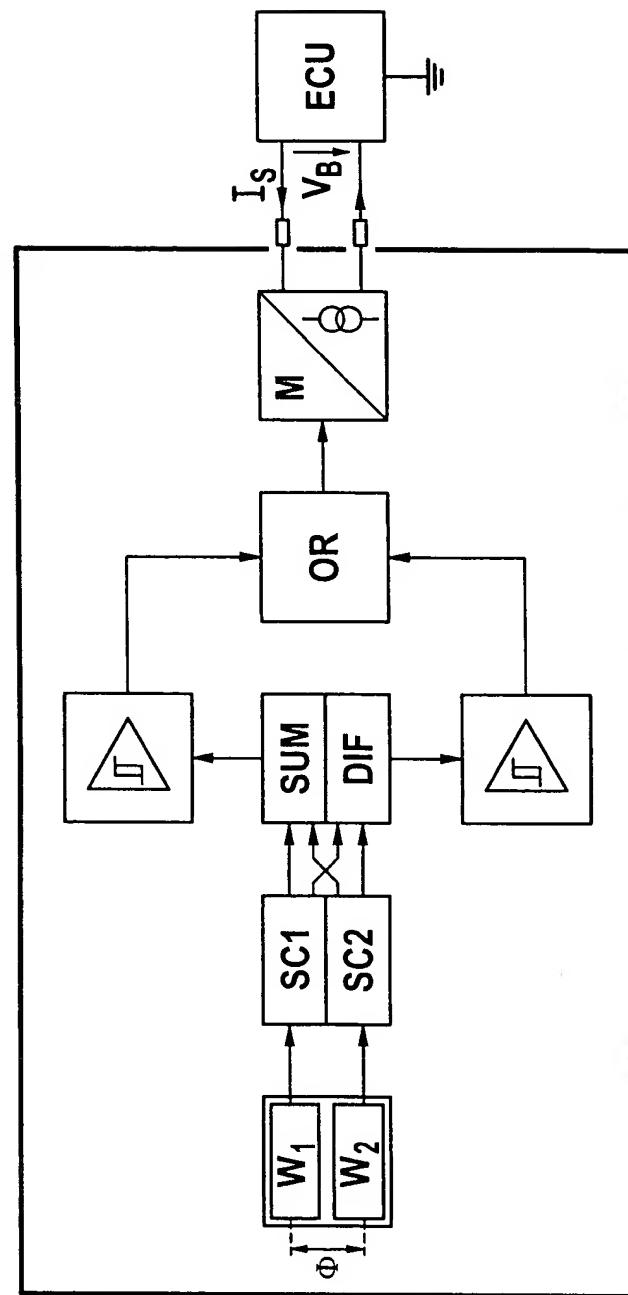
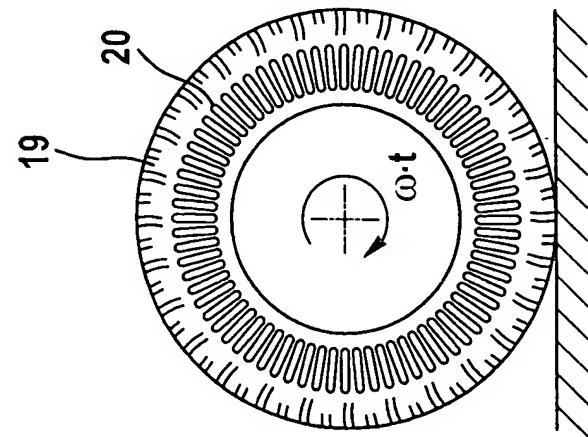


Fig. 3



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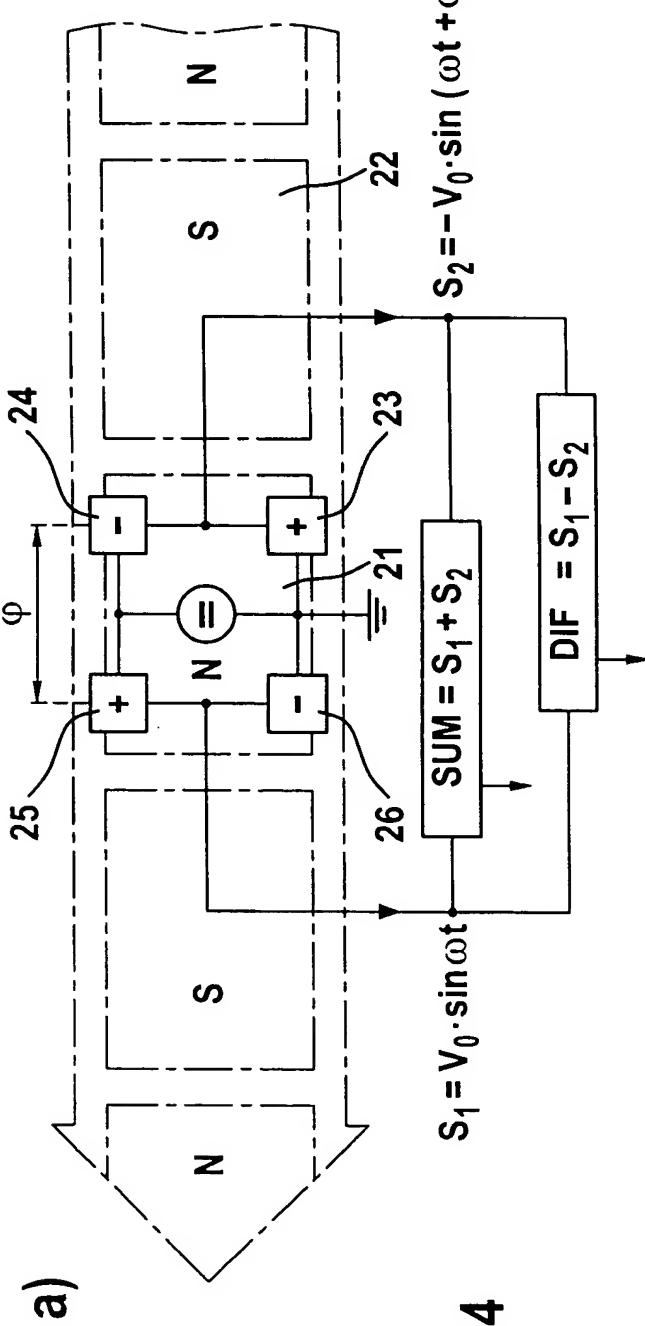


Fig. 4

b)

$$\begin{aligned} \text{SUM} &= S_1 + S_2 \sim (\sin \omega t - \sin (\omega t + \varphi)) \\ \text{DIF} &= S_1 - S_2 \sim (\sin \omega t + \sin (\omega t + \varphi)) \\ \text{DIF} = 0 &\rightsquigarrow \omega t = -\frac{\varphi}{2} \end{aligned}$$

b)

c)

$$\begin{aligned} \text{SUM} &= S_1 + S_2 \sim (\sin \omega t - \sin (\omega t - \varphi)) \\ \text{DIF} &= S_1 - S_2 \sim (\sin \omega t + \sin (\omega t - \varphi)) \\ \text{DIF} = 0 &\rightsquigarrow \omega t = +\frac{\varphi}{2} \end{aligned}$$

$\frac{d\text{SUM}}{d\omega t}\left(+\frac{\varphi}{2}\right) = 0 \rightsquigarrow \text{EXTREMWERT}$
EXTREME VALUE

$$\frac{d^2\text{SUM}}{d(\omega t)^2}\left(+\frac{\varphi}{2}\right) \approx -2 \omega \cdot \sin \frac{\varphi}{2} \rightsquigarrow \text{MAXIMUM}$$

$\frac{d\text{SUM}}{d\omega t}\left(-\frac{\varphi}{2}\right) = 0 \rightsquigarrow \text{EXTREMWERT}$
EXTREME VALUE

$$\frac{d^2\text{SUM}}{d(\omega t)^2}\left(-\frac{\varphi}{2}\right) \approx +2 \omega \cdot \sin \frac{\varphi}{2} \rightsquigarrow \text{MINIMUM}$$

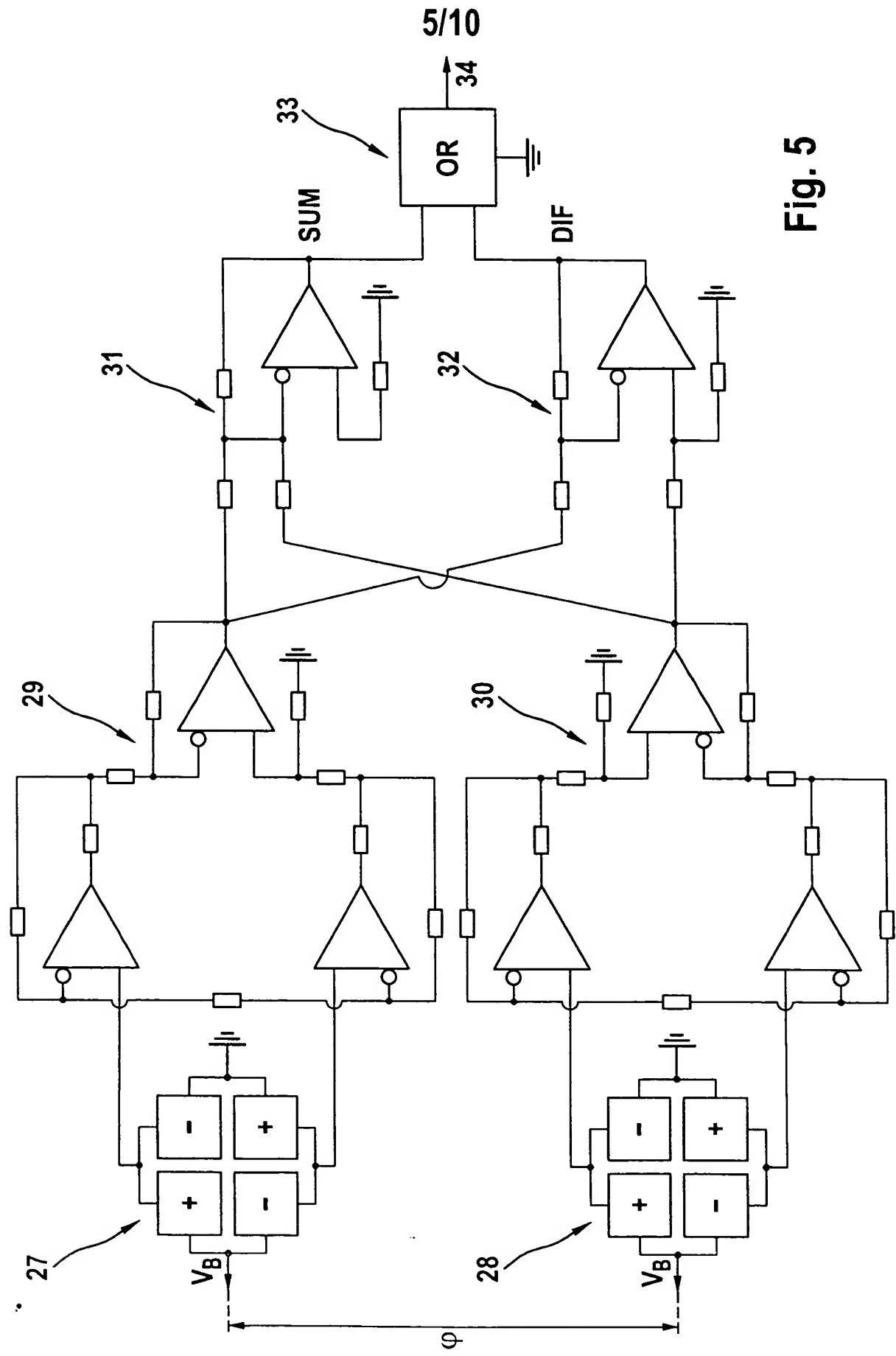
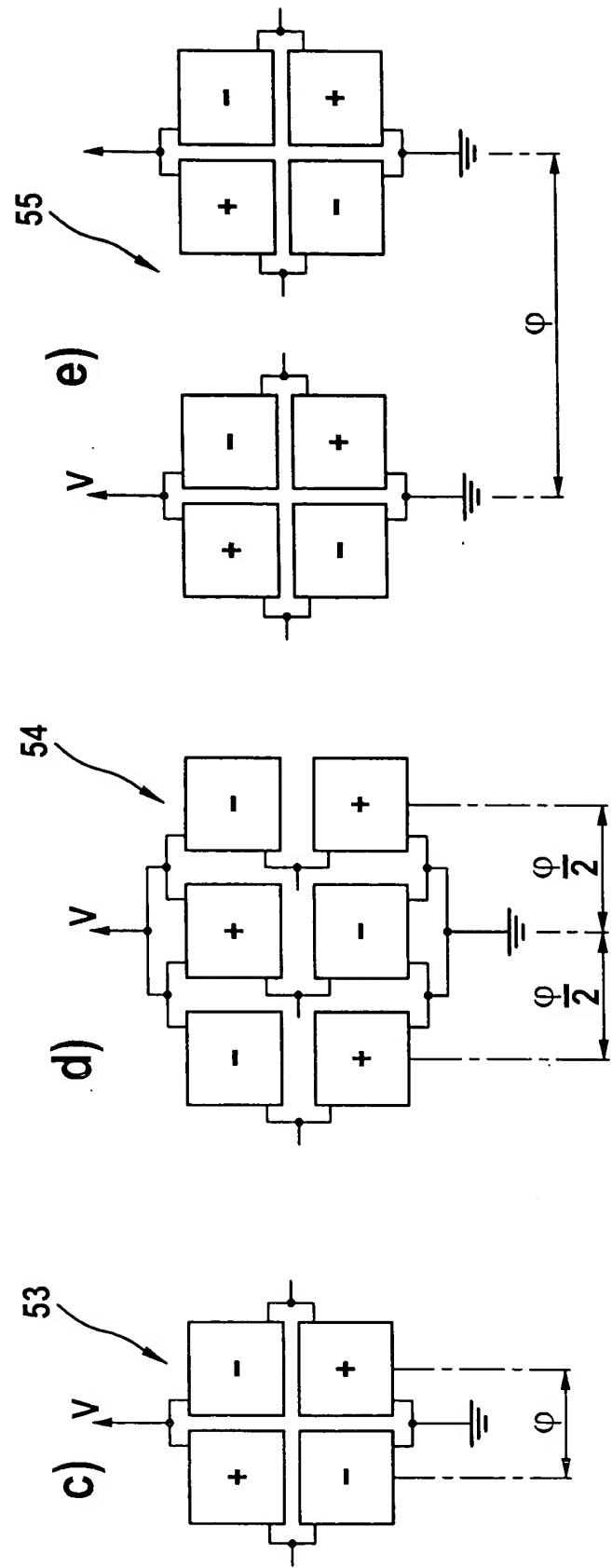
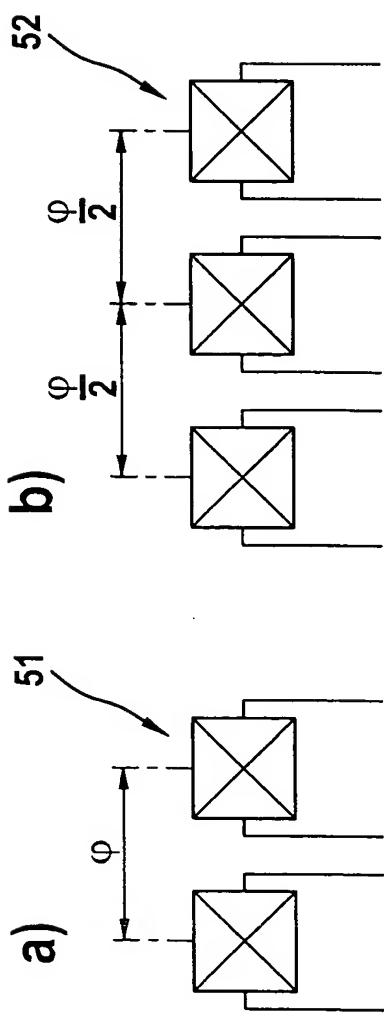


Fig. 5

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Fig. 6



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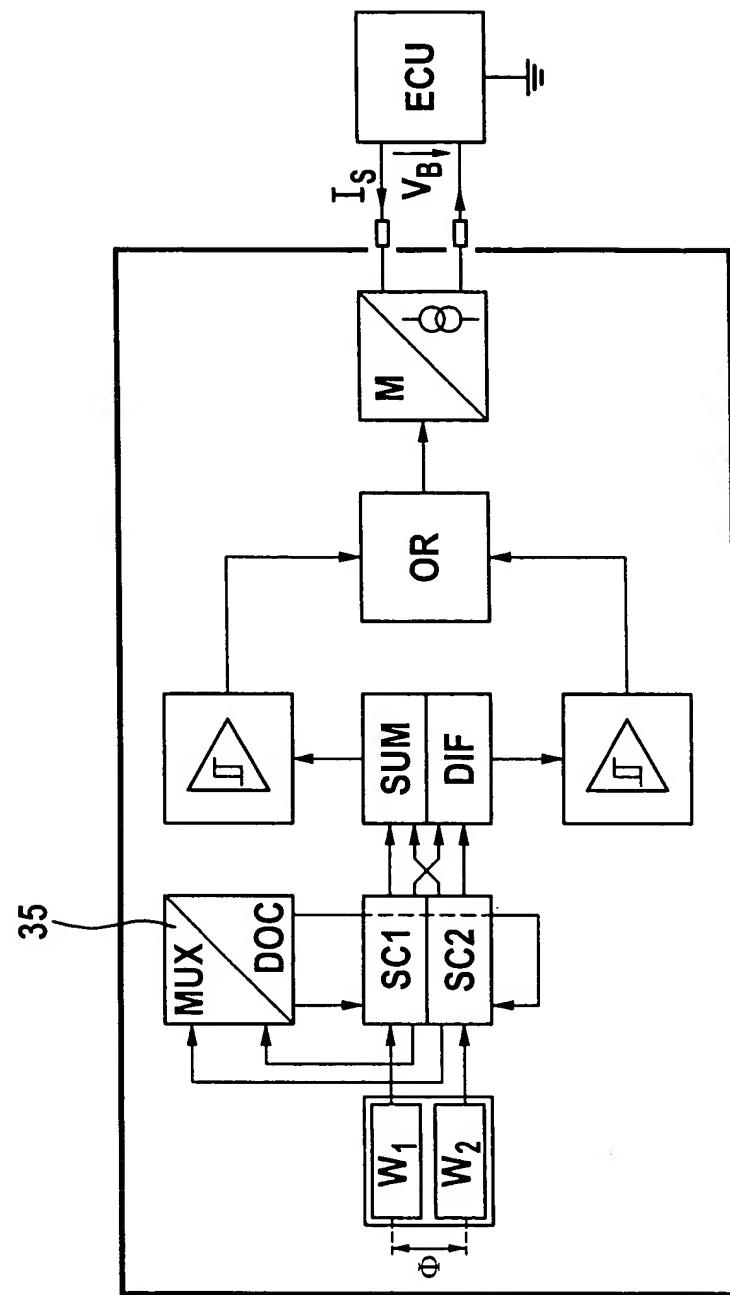
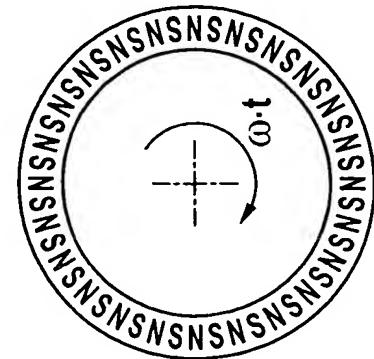


Fig. 7



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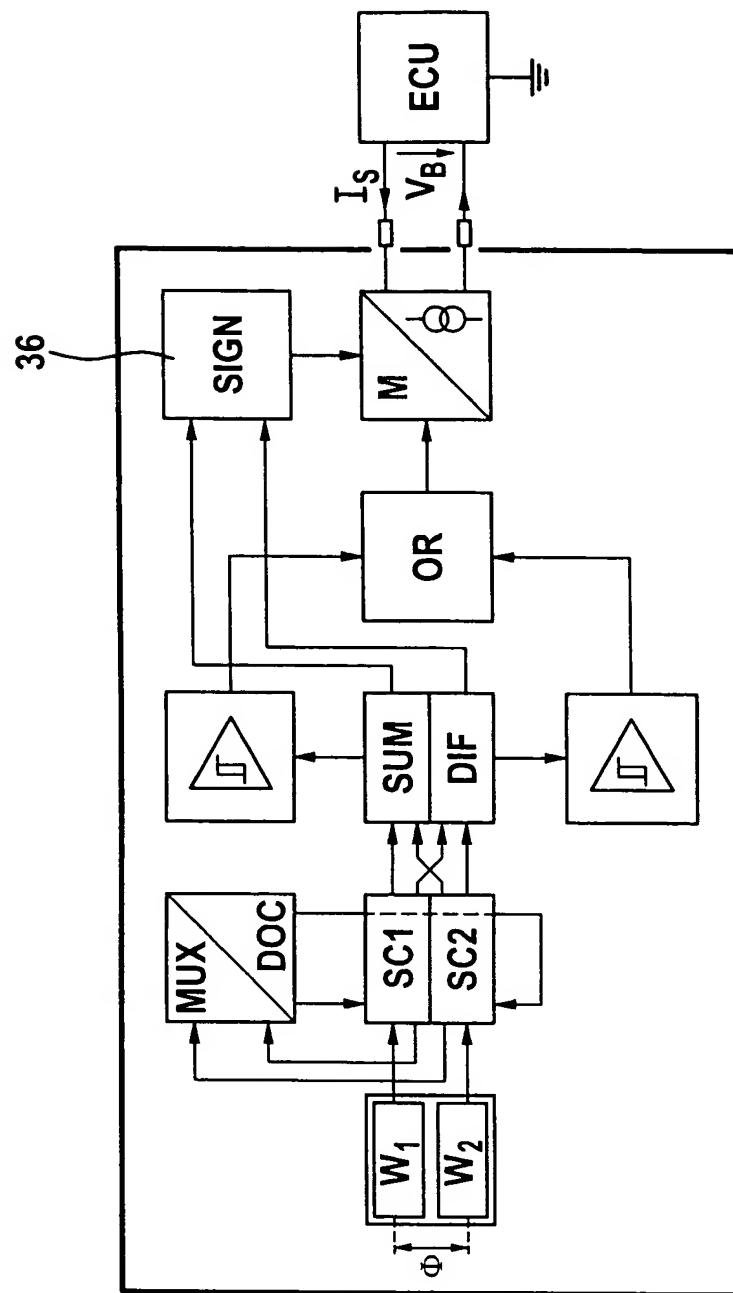
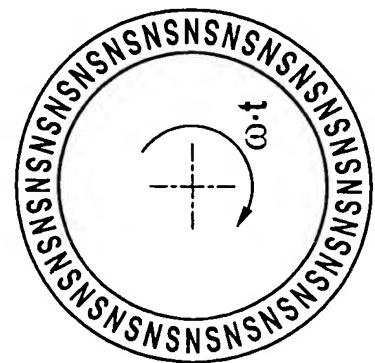


Fig. 8



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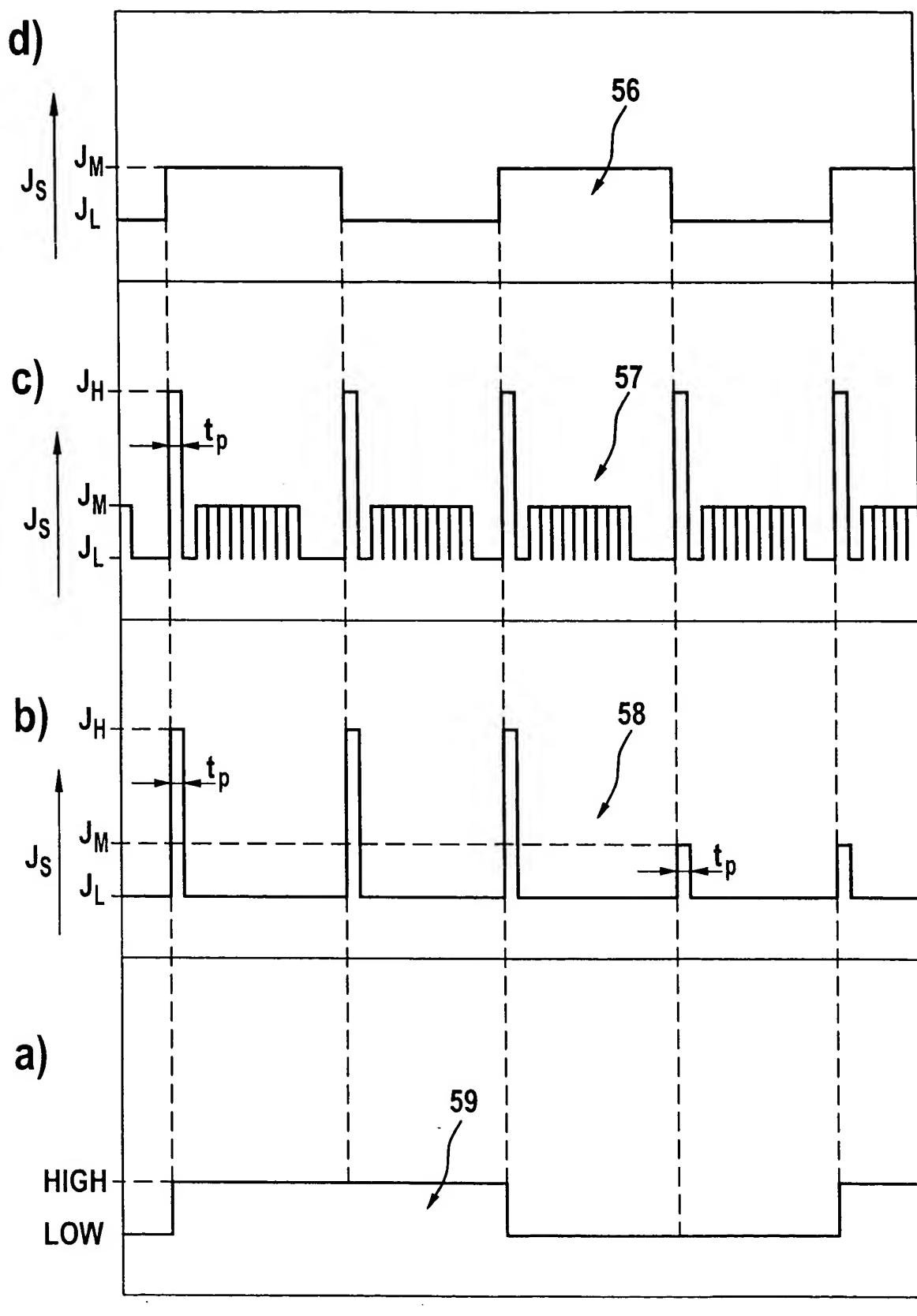


Fig. 9

 $\rightarrow t$

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Fig. 10

